

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512

DATE: December 23, 2004

TO: Interested Parties

FROM: Lance Shaw, Compliance Project Manager

**SUBJECT: WALNUT ENERGY CENTER PROJECT (02-AFC-4C)
NOTICE OF RECEIPT OF PETITION TO REVISE SOILS & WATER-5
(BRIDGE AND CONSTRUCTION WATER SUPPLY) AND PUBLIC
REVIEW OF STAFF ANALYSIS**

On September 3, 2004, the California Energy Commission received a petition from Walnut Energy Center Authority (WECA) to amend the Energy Commission Decision for the Walnut Energy Center (WEC) Project. The original petition was supplemented by the owner's filings on October 20, 2004, and December 7, 2004.

WEC is a 250-megawatt natural gas-fired power plant located in the City of Turlock, in Stanislaus County. The power plant is currently under construction and is 33 percent complete. Ownership change of the WEC project to WECA from Turlock Irrigation District (TID) was authorized by the Energy Commission in its September 8, 2004 Business Meeting (Order number 04-0908-01(c)). TID, the project's previous owner and Merced Irrigation District formed the Walnut Energy Center Authority (WECA), a new public agency under the Joint Powers Act.

The proposed modifications will allow the owner to use lower-quality potable water from two new upper aquifer wells, instead of potable water supplied by the City of Turlock as the project's bridge water supply (water used prior to the availability of recycled water); and to use City of Turlock supplied potable water for construction purposes such as hydrostatic testing, flushing of equipment, pipes and tanks instead of water which would have been supplied by the well at TID's Walnut Peaker Plant and substation.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to condition of certification Soils & Water-5. Soils & Water is the only technical area impacted by this petition. It is staff's opinion that with the implementation of this revised condition, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition has been posted on the Energy Commission's webpage at www.energy.ca.gov/sitingcases/turlock. Staff's analysis is attached for your information and review. Staff's analysis and the order (if the amendment is approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the January 19, 2005 Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to Lance Shaw at the address below prior to January 18, 2005:

California Energy Commission
Attn: Lance Shaw
1516 9th Street, MS 2000
Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail to lshaw@energy.state.ca.us. If you have any questions, please contact Lance Shaw, Compliance Project Manager, at (916) 653-1227.

For further information on how to participate in this proceeding, please contact Margret J. Kim, the Energy Commission's Public Adviser, at (916) 654-4489, or toll free in California at (800) 822-6228, or by e-mail to pao@energy.state.ca.us. If you require special accommodations, please contact Lourdes Quiroz at (916) 654-5146. News media inquiries should be directed to Assistant Director, Claudia Chandler, at (916) 654-4989, or by e-mail at mediaoffice@energy.state.ca.us.

Attachment: Staff Analysis

Mail List # 7164

Walnut Energy Center Authority
STAFF ANALYSIS OF
BRIDGE AND CONSTRUCTION WATER SUPPLY
December 23, 2004

WATER RESOURCES – Prepared by Lorraine White and Linda Bond

INTRODUCTION

Walnut Energy Center (WEC) is a 250-megawatt natural gas fired power plant located in the City of Turlock, in Stanislaus County of California. The power plant is currently under construction and is 33.5 percent complete. Ownership change of the WEC project to Walnut Energy Center Authority (WECA) from Turlock Irrigation District (TID) was authorized by the Energy Commission in its September 8, 2004 Business Meeting (Order number 04-0908-01(c)). TID, the project's previous owner, formed with Merced Irrigation District, a new public agency under the Joint Powers Act. This new agency is known as Walnut Energy Center Authority.

WECA submitted Amendment #2 in September 2004, for the Walnut Energy Center (WEC). This petition seeks to amend the project to change the source of bridge water supply used prior to the availability of recycled water. Specifically, the Owner is requesting permission to drill two wells in the upper aquifer on either its project site or the site of TID's South Washington road equipment storage area, located immediately adjacent to TID's Walnut Peaker Plant and substation.

Water from these upper aquifer wells would replace potable water obtained from the City of Turlock that the Energy Commission's Decision approved for use as a temporary bridge supply until recycled water becomes available. Once recycled water becomes available, upper aquifer groundwater use would be restricted to the back-up water supply as described in Condition of Certification Soils & Water-5. The design of the proposed wells would allow the project to draw water from the upper aquifer rather than the higher quality lower aquifer that supplies the City of Turlock's potable supplies. The upper aquifer is used for both domestic and irrigation supplies, and many private wells are located near the proposed well sites.

The petitioner has also requested approval to use potable water for various construction activities in addition to groundwater obtained from a well at the existing peaker plant currently delivered to the site by truck. Originally, the Decision approved the use of groundwater supplied via a temporary pipeline from a well at TID's Walnut substation. The developer has identified additional costs to construct the temporary construction-related water supply line and wants

approval to use potable water supply that can be supplied from their recently constructed potable water pipeline.

PROJECT HISTORY

The California Energy Commission approved the WEC (02-AFC-04) in February 2004. As approved, the project was to use three water supplies: 1) groundwater for construction supplied from existing wells at the TID Walnut Peaker Plant and substation, 2) potable water from groundwater supplied by the City of Turlock for a bridge supply and back-up, and 3) recycled water for operation supplied by the City of Turlock's wastewater treatment plant (WWTP). Groundwater for construction was to be delivered via a temporary pipeline running from a well at the existing Walnut Peaking Plant and substation to the WEC project site under the existing railroad tracks and adjacent road.

Currently, trucks obtain water for dust suppression from this well. Average daily construction water use is approximately 10,000 gal/day and peak demand is expected to be approximately 100,000 gal/day when filling tanks and pipes for hydrostatic testing. Operational water demand is approximately 1,800 AFY or 2 million gallons per day (mgd). The bridge period is defined as the time between the commencement of commercial operation of the WEC and the earlier of December 31, 2006 or when recycled water becomes available to WEC. In the assessment of the original project proposal, staff found that the temporary use of high quality potable water would not significantly affect groundwater resources since the use was expected to be short-term and off-set by the use of recycled water when it became available (Energy Commission Decision, pg. 201).

PROJECT SETTING AND DESCRIPTION

WEC is located on a 51-acre site, 18-acres of which will be used for the power plant. The site was previously used for agricultural purposes and required approximately 54 AFY of water for irrigation. Other uses in the area include residential, agricultural and industrial.

SUMMARY OF STAFF ANALYSIS

SCOPE OF ANALYSIS

This analysis is limited to the potential effects to water resources associated with the changes described in the petition. The original petition (September 3, 2004) and supplements (October 20, 2004 and December 7, 2004) seek to: 1) change the bridge water supply from potable water to upper aquifer untreated groundwater until recycled water becomes available and 2) use potable water for hydrostatic testing and flushing of pipes, tanks and equipment rather than poorer quality groundwater.

Originally, the project owner agreed to limit the use of groundwater-derived back-up supplies to historical amounts used to irrigate the site (54 acre-feet per year). In this manner, the project would result in no net increase in groundwater demand over the long term. The petition did not address any changes in the amount of back-up water that could be used by the project after recycled water becomes available. However, changes requested to Soils & Water-5 and 6 in the petition included removing the 54 acre-foot/year cap on groundwater use by WEC and allowing the project to use as much as 1,800 afy of groundwater for back-up supplies.

Staff has confirmed with the project developer that no new information or analysis is available to substantiate the request to remove the limit on groundwater use for back-up at this time. Rather the Energy Commission included Condition of Certification Soils & Water-6 to address any alternative supplies that may be needed in the event that recycled water is not available as expected or in the event of a significant disruption in water supplies once the project starts using recycled water. The project developer has not yet developed or submitted any plans related to Soils & Water-6. As a result, the developer has agreed that the changes to Soils & Water-5 will be restricted to the changes requested in the petition only and no changes will be made to Soils & Water-6. Therefore, staff did not analyze the potential affects associated with prolonged use of groundwater in excess of 54 acre-feet/year for back-up supplies to recycled water.

Proposed Change to the Bridge Water Supply

The bridge supply is a short-term supply that will be replaced with recycled water once it is available from the City's WWTP. Even though the bridge water supply is only expected to be needed for approximately 2 years (until December 31, 2006 at the latest), groundwater extraction in the area of the project has the potential to impact many nearby private wells. For a conservative analysis, WECA evaluated well interference caused by a single well producing all of WEC's 2 mgd demand for a continuous 5 year period. WECA identified 78 private irrigation wells and 602 private domestic wells in the vicinity of the two proposed alternative well sites. Depending on the location of the proposed well, the developer found that the water levels in as many as 41 wells will be lowered more than 3 feet. Based on the information and analysis presented in the amendment and supporting documents, staff was able to verify the data, the method of analysis used by the developer and their results (Bond 2004).

Staff has determined that current actions by WECA and the requirement that WEC is to use recycled water as soon as it is available will be sufficient to mitigate the impacts to adjacent well-users to less than significant. TID is both a power producer and an irrigation district. TID's irrigation deliveries contribute to groundwater recharge within their district thereby increasing groundwater levels. Considering this current contribution to groundwater levels and that the use of

groundwater for the bridge supply is only temporary, ultimately replaced with recycled water as soon as the City of Turlock can deliver the supply, staff finds that no additional mitigation is required.

Proposed Change to the Construction Water Supply

In the original proceeding, staff had determined that temporary use of potable water for the bridge supply would not result in significant adverse impacts to groundwater supplies and other users of the potable supplies. The project developer is no longer proposing to use potable water for project operation as their bridge water supply, but rather to use it for specific construction activities. Staff has reviewed the project developer's petition and found that use of potable water supplies for the construction activities specified would result in less water used daily by the project than during operation and for a shorter time than the bridge period. In addition, the owner has proposed to re-use or recycle the potable water for these construction activities whenever possible thereby reducing their reliance on the high quality water further. Although the Energy Commission discourages the use of high quality water for power plants construction or operation, staff finds that use of potable water for specified construction activities related to WEC will not result in significant impacts to water supplies or other users of these supplies.

Conclusions and Recommendations

Staff finds that the requested changes to the WEC's construction and operation water supplies will result in impacts to water resources that will be mitigated to less than significant. Since the project is required to use recycled water as soon as it is available, the use of groundwater for WEC is only temporary and TID is already contributing to groundwater recharge, no additional mitigation is required.

Modifications to Conditions of Certification

Staff recommends the following changes to the Condition of Certification Soils & Water-5:

SOILS & WATER-5: The project's water use shall be limited as described below. For purposes of this condition, the bridge period is defined as that period of time between the commencement of commercial operation of the WEC and the earlier of December 31, 2006 or when recycled water from the City of Turlock's wastewater treatment plant (WWTP) is available to the WEC.

Water for construction purposes shall consist of groundwater provided from the existing TID well at the Walnut substation. Potable water may also be used for construction for the

purpose of hydrostatic testing and flushing of equipment, pipes and tanks; provided however, the project owner shall minimize the use of potable water for this purpose to the maximum extent feasible. Water, for all purposes, used during the bridge period shall consist of potable water provided by the City of Turlock, and shall not exceed 2 million gallons per day or 1,803 afy.

During the bridge period, water used for cooling and steam cycle make-up shall consist of poor quality groundwater from the upper aquifer supplied from one of two groundwater wells located on either the WEC project site or the TID equipment storage area on South Washington Road (the "South Washington" site). Only one of the two groundwater wells may be operated at any time (with the other well serving as a 100 percent redundant backup). Groundwater production from the wells shall not exceed two million gallons per day or 1,800 afy.

Water for operational and landscaping purposes used after the bridge period shall consist of recycled water from the City of Turlock WWTP and shall not exceed 1,800 afy. Water for domestic needs after the bridge period shall consist of potable water provided by the City of Turlock and shall not exceed 3 afy. ~~Potable water~~ Groundwater from the wells to be located either on the WEC project site or the South Washington site may also be used for back-up to the recycled water supply in the event of a short-term disruption in service and shall not exceed 51 afy. ~~Potable water~~ Groundwater from the wells to be located either on the WEC project site or the South Washington site may also be used in the event that recycled water is not available to the project subject to the provisions of **SOILS&WATER-6**. Alternative water use shall be calculated using a 5-year rolling average.

Verification: The project owner shall notify the Commission no later than May 31, 2006, and in monthly compliance reports thereafter, as to the status of recycled water production by the City of Turlock's WWTP until the WEC is using tertiary treated, recycled water for its non-potable operational and landscaping requirements. This notice shall include information on the issues related to recycled water production, DHS approval for recycled water service and the expected availability of recycled water supplies to WEC. After recycled water service is provided to WEC, the project

owner shall report water use to the Commission as required by **SOILS&WATER-7**. Annual average water use shall be calculated using a 5-year rolling average of actual water use starting with the first year of operation. In the event of an interruption or reduction in recycled water service that requires the use of ~~back-up potable water~~ groundwater from the wells to be located either on the WEC project site or the South Washington site, the project owner shall notify the CPM, in writing, within 24 hours.

References

Bond, Linda. 2004. Review of Turlock Irrigation Districts Petition: Walnut Energy Center Amendment No. 2 Alternative "Bridge" Water Supply. Memorandum to California Energy Commission Staff, December 3, 2004. 7 pp.